

REMARKS

The Official Action of 7 September 2007 has been carefully considered and reconsideration of the application as amended is respectfully requested.

The specification has been amended to correct errors of a clerical nature in the description of certain compounds on pages 14 and 43. Both the errors and the corrections would have been clear to one of skill in the art from the surrounding text of the specification as filed. See, for example, specification as filed at page 14, lines 7 and 12 ("tetradecafluoropentacene"), and at page 43, lines 25 to 26 ("1,2,3,4,5,5,6,7,8,9,10,11,12,12-tetradecafluoro-5,12-dihydronaphthacene (9)").

In the Official Action, the Examiner examined claims 1-10 as originally filed in the international phase of PCT/JP2005/002495 notwithstanding that the international application was amended under the provisions of PCT Article 34 with the cancellation of claims 1 to 5 and 8 to 10; with the amendment of claims 6 and 7; and with the addition of claims 11-14. An English translation of the Amendment under Article 34 is submitted herewith. To facilitate a continued examination of this application on the basis of the claim numbering used by the Examiner, Applicants have by this amendment: (a) canceled claims 1-10; (b) rewritten claims 6 and 7 as new claims 11 and 12 with changes of a formal nature, including the introduction of formulae (see specification at page 11, lines 1 and 2); and (c) added new claims 13-16 that correspond with the claims added in the Article 34 amendment. Since new claims 13-16 (corresponding to claims

11-14 added by Article 34 amendment) should have been examined in the first Official Action, but were not, Applicants respectfully submit that, if any rejection of such claims is made in the next action, the action should not be made final.

Claims 1-4 and 8 were rejected under 35 USC 102(b) as allegedly being anticipated by Suzuki et al. Claim 5 was rejected under 35 USC 102(a) as allegedly being anticipated by Sakamoto et al. Claims 9-10 were rejected under 35 USC 103(a) as allegedly being unpatentable over Suzuki et al in view of Schon. All of these rejected claims have been canceled whereby to render moot the bases for the rejections.

Claim 6 was rejected under 35 USC 103(a) as allegedly being unpatentable over Suzuki et al in view of Shtein '586. Claim 7 was rejected under 35 USC 103(a) as allegedly being unpatentable over Sakamoto et al in view of Shtein '586. Applicants respectfully traverse these rejections.

The claimed invention is based at least in part upon Applicants' discovery that, in the preparation of an organic thin-film transistor comprising an organic semiconductor layer on a substrate, the transistor can be provided with advantageous properties, including uniform/parallel orientation of molecules within the organic semiconductor layer and a high carrier-mobility, by the steps of controlling the temperature of the substrate and vacuum-depositing a fluorinated acene compound on the substrate. See specification at, e.g., page 14, line 5 to page 15, line 5, and page 15, line 18 to page 16, line 22. All claims now of

record recite these steps.

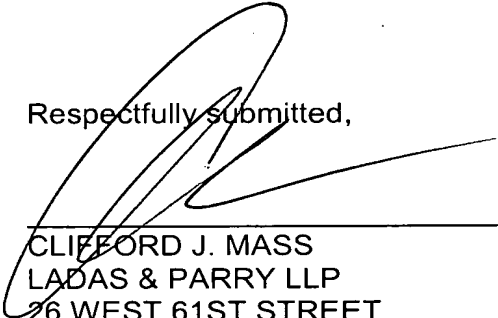
In contrast, none of the cited references shows or suggests at least the claimed step of vacuum-depositing the recited fluorinated acene compounds on a substrate to form organic thin films with desired orientation. Indeed, Shtein, the only reference cited by the Examiner to show the controlled deposition of fluorinated acene compounds to form highly ordered polycrystalline organic films, does not show or suggest vacuum deposition. Thus, although Shtein may disclose organic vapor phase deposition occurring at a substrate temperature in the range of 2°C to 77°C and at a deposition chamber pressure in the range of 0.05 Torr to 760 Torr (approximately 6.66 Pa to 101300 Pa) in claim 2 and organic film growth at $T_g = 50^\circ\text{C}$ and $P_{\text{dep}} = 8$ Torr in paragraph 0010, these deposition chamber pressures do not correspond to pressures in vacuum deposition since such vacuum deposition is normally conducted at a pressure equal to or less than 10^{-4} Pa. Accordingly, it would be clear to those of skill in the art that the vacuum deposition of the recited fluorinated acene compounds on a substrate is neither disclosed nor suggested in the reference.

In the absence of anything in the cited references to show or suggest the claimed step of vacuum deposition, Applicants respectfully submit that the cited references cannot be considered to set forth even a *prima facie* case of obviousness for the invention as defined in any of the claims of record. This is true not only for process claims 6-7, but also for product-by-process claims 13-16, where the present specification shows that the steps of controlling

temperature and vacuum deposition would impart distinctive structural characteristics to the final product. See MPEP 2113 ("The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially. . . .where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product.").

In view of the above, Applicants respectfully submit that the prior art rejections and all other rejections and objections of record have been overcome. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,



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